

In the specification:

Please replace the paragraph beginning at page 9, line 12 with the following:

In accordance with this invention, a data processing system includes a host device with at least two applications for processing data. One of the application processes data in source device storage locations and enables the copying of that data to predetermined destination device storage locations concurrently with the operation of at least one application in response to commands identifying the predetermined storage locations. A response to a first command establishes a first operating environment including first and second lists of the predetermined source device storage locations and a third list of the predetermined destination device storage locations. Copying occurs in an ordered manner. For each predetermined storage location, the process includes copying the data from one predetermined source device location to a corresponding destination device storage location, updating each of the lists to indicate that the data has been transferred, and responding to a change to a source device storage location for which a copy has been made by updating each of the lists to denote that another transfer [[need]] needs to occur. A second command establishes a second environment in which the destination device storage locations are available for use by another host application.

Please replace the paragraph beginning at page 14, line 8 with the following:

Referring to FIG. 2A, a response to certain copy commands that identify the logical device [[31A]]31 as the source device is to generate a data structure in the header block 51 of the source device entry 47. As shown in FIG. 2B, the header block 51 includes an OS Copy data structure 70. The data structure 70 includes a DEST data element 71 that contains the initial destination device address of a storage location. An LSC (Last Set Cylinder) data element 72 identifies the last set cylinder in the source device that points to the last cylinder in the source device for which processing has begun. The initial value will be the location of the first cylinder to be transferred.

Please replace the paragraph beginning at page 14, line 19 with the following:

A TS (Time Stamp) element 73 provides a time stamp that is useful particularly when large quantities of data are to be copied. An OP (Operator) data element 74 identifies a particular operation that is occurring. In the context of the command operating phases, the OP data element indicates which of several operating phases are in progress. An OP STATUS (Operator Status) data element 75 indicates the status of the operation; for example, whether the copy program is in

progress, has been completed or has failed. Together the OP data element 74 and operating status disk element 75 define the state of the copy operation. The data structure 70 also includes a set of status flags including an ACTIVE status flag 78 that is discussed later.

Please replace the paragraph beginning at page 16, line 7 with the following:

With this background, actions within the data storage facility 24, in accordance with this invention, begin when a host application issues a CREATE CLONE command that includes different fields and arguments such a source device and destination device address fields. [In any form, the] In any form the basic function of the CREATE CLONE command is to establish an operating environment for copy operation by identifying the source and destination devices. At least one argument can be included in the CREATE CLONE command to control the response to the command. One value argument initiates precopying after the environment is established in accordance with this invention. A CREATE CLONE command with an argument to begin a precopy process is termed a "PRECOPY" command. A second variation of the CREATE CLONE complements the PRECOPY command. It is an ACTIVATE command that makes the destination device available to another host application. The ACTIVATE command can be issued any time after the PRECOPY command. A third variation is an ACTIVE COPY command that establishes other necessary environment and immediately initiates a

conventional open-system copy operation after the environment is established. This ACTIVE COPY command performs the procedures in response to the FILE SMMF command described in U.S. Patent Application Serial No. 10/705,772. As will be obvious to those of ordinary skill in the art, this information might be contained in a single argument or in a combination of commands and arguments.

Please replace the paragraph beginning at page 18, line 14 with the following:

Step 104 in FIG. 3 establishes a first session ID. In the following discussion the PB column position selected by step 104 is called the "clone PB column" and the bits in the column are called "clone PB" bits. By way of example, step 104 might identify Column "2" in FIG. 2C as the clone PB column if that column were available. This step also updates the SESSIONS [[ID]]IDS block 76 to denote the correspondence of the selected clone PB column. The clone PB column is one implementation of a first list of the predetermined storage locations in the source device.

Please replace the paragraph beginning at page 18, line 24 with the following:

If the CREATE CLONE command is interpreted as a PRECOPY command, step 105 establishes a second session to run with the first session. In the specific example, control transfers to

step 106 that, by way of example, selects another PB column, such as Column "4" in FIG. 2C as the "[[precopy]]pre-copy_PB column" if that column were available. This second PB column is an example of an implementation of the second list of storage locations in the source device. This step would also update the [SESSIONS ID]SESSION IDS block 76 to denote the correspondence of the selected precopy PB column. Obviously, if the CREATE CLONE command is interpreted as an ACTIVE COPY command step 105 transfers control directly to step 107.

Please replace the paragraph beginning at page 24, line 20 with the following:

When the data storage facility 24 in FIG. 1 receives an ACTIVATE command, the data storage facility establishes a second environment wherein the storage locations in the destination device area available for use by another host application and initiates a full copy operation as shown in FIG. 7. Step 140 represents the receipt of the ACTIVATE command. Step 141 tests the ACTIVE flag 78 in FIG. 2A. In a precopy state, the active flag should not be set, so[[,]]step 141 transfers control to step 142 that tests the PRECOPY flag 77 and transfers control to step 143. Step 143 clears the PRECOPY flag 77. Step 144 then sets the ACTIVE flag 78. Step 145 makes the destination device available for interaction with applications, such as the HOST APP B application 23 in FIG. 1. Step 146 initiates a copy program in the copy programs block of FIG. 1 and as is described in detail in FIG. 8. Step 147

generates a completion message that acknowledges a successful switch to the active state.

Please replace the paragraph beginning at page 25, line 18 with the following:

If the ACTIVE flag 78 is not set and the PRECOPY flag 77 is not set, steps 141 and 142 transfer control directly to step 144. This sequence occurs if an ACTIVATE command makes the destination device immediately available to another application. When an ACTIVATE command issues, step 146 in FIG. 7 initiates the clone copy program of FIG. 8 in place of the precopy program of FIG. 5. Initially step 150 in FIG. 8 identifies the destination device and an initial track in the destination device. Step 151 tests the ACTIVE flag 78 in FIG. 2B. If it is not active, an error condition exists and step 152 institutes a procedure to abort any further operation of the copy program. Otherwise, and normally, step 151 transfers control to step 152. If the precopy PB bit is not set, the track has been copied and the data in the source device track has not subsequently changed. In this event, step 152 transfers control to step 153 to clear that precopy PB bit in step 153. Then control transfers to steps 154 and 155 to determine whether all the tracks are copied and to identify a next track if more tracks need to be received. In that event control transfers back to step 151.

Please replace the paragraph beginning at page 26, line 13 with the following:

If the precopy PB bit is set, step 152 causes the process to revert to a sequence as shown in step 156 to test the CLONE PB bit of the source device to the data has been copied. If the data has already been copied during the precopy process, step 157 transfers control to step 154 to determine whether more tracks exist. If the track has not been copied, the CLONE PB bit is set. Step 158 copies the track and step 160 clears the IND bit. Step 161 clears the CLONE PB bit and control transfers to step 154. When all the tracks have been copied, step 154 terminates the procedure.

Please replace the paragraph beginning at page 27, line 8 with the following:

Referring again to FIG. 6, when a source device receives a write request during the ACTIVATE state, step 132 transfers control to step 162 to determine if the corresponding CLONE PB bit is set. If it is not, then there is an ACTIVATE status with a track that has been copied. However, there is a possibility that the PRECOPY PB bit is cleared[,] so step 162 transfers control to step 163. Step 163 tests [to test]the PRECOPY flag 77 in FIG. 2A to determine if this ACTIVATE program is a continuation of a PRECOPY program. If it is, step 164 tests the corresponding PRECOPY PB bit. If it is set, step 165 clears that PRECOPY PB bit. Controls transfers to step 134

to complete the write operation. If the PRECOPY flag 77 is not set or if the PRECOPY PB bit is not set, control transfers to step 134 without operation of step 165.